VOLUME 28, PART II

SUBJECT INDEX

A

Abrasion.

See also **Wear Testing.**

An Explanation of Some of the Difficulties in Abrasion Testing of Rubber. Harlan A. Depew, 871. Discussion, 880.

Studies of Methods of Making Deval Abrasion Tests of Aggregates. Stanton Walker, 745. Discussion, 768.

The Development of an Apparatus for Wear Tests on Flooring Materials. D. W. Kessler, 855. Discussion, 868.

Absorption.

Resistance of Portland-Cement Concrete to the Action of Sulfate Waters as Influenced by the Cement. Dalton G. Miller, 448. Discussion, 461.

Tests of Clay and Concrete Load-Bearing Pipe. W. J. Schlick, 635.

Accelerated Tests.

Influence of Corrosion Accelerators and Inhibitors on Fatigue of Ferrous Metals. F. N. Speller, I. B. McCorkle and P. F. Mumma, 159. Discussion, 168.

Some Accelerated Freezing and Thawing Tests on Concrete. C. H. Scholer, 472. Discussion, 487.

Testing of Materials at Elevated Temperatures. P. G. McVetty, 60. Discussion, 77.

Admixtures.

The Measurement of Workability of Concrete. George A. Smith, 505. Discussion, 521.

Aggregates.

Compression, Flexure and Tension Tests of Plain Concrete. H. F. Gonnerman and E. C. Shuman, 527. Discussion, 553.

Studies of Methods of Making Deval Abrasion Tests of Aggregates. Stanton Walker, 745. Discussion, 768.

Aging of Cement.

Volume Changes of Portland Cement as Affected by Chemical Composition and Aging. Alfred H. White, 398. Discussion, 422.

Alloys.

Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.

Some Mechanical Properties of Nickel, Manganese-Nickel, and Copper-Nickel Alloys. William A. Mudge and Leroy W. Luff, 278. Discussion, 292.

Testing of Materials at Elevated Temperatures. P. G. McVetty, 60. Discussion, 77.

The Seizing of Metals at High Temperatures. N. L. Mochel, 269. Discussion, 276.

Wear and Mechanical Tests of Some Railroad Bearing Bronzes. H. J. French, 298. Discussion, 348.

Alloy Steel.
Discussion on Wear Testing of Metals, 348.
Gas Welding of High-Chromium Corrosion-Resistant Alloys. W. B. Miller, 258. Discussion, 266.
Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.
Wearing Tests of Twelve-per-cent Manganese Steel. John Howe Hall, 326. Discussion, 348.

Aluminum.
Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.

B

Bearing Metal.
Discussion on Wear Testing of Metals, 348.
Wear and Mechanical Tests of Some Railroad Bearing Bronzes. H. J. French, 298. Discussion, 348.

Bend Testing.
Gas Welding of High-Chromium Corrosion-Resistant Alloys. W. B. Miller, 258. Discussion, 266.

Bibliographies.
Bibliography on physical testing of concrete, 551.
List of references on corrosion and corrosion-fatigue of metals, 145.
List of references on magnetic analysis, 373.
List of references on particle size determination, 812.

Bituminous Materials.
The Test for Volatile Combustible Matter as Applied to Coal-Tar Pitch. S. R. Church and W. H. Fulweiler, 848.

Bond.
Experimental Tests of Concrete-Steel Bond. L. N. Edwards and H. L. Greenleaf, 584. Discussion, 599.

Brick.
Methods of Measuring the Thermal Conductivity of Insulating and Refractory Materials. M. L. Hartmann, O. B. Westmont and C. E. Weinland, 820.
The Effect of Strength of Brick on Compressive Strength of Brick Masonry. J. W. McBurney, 605. Discussion, 626.

Brittleness.
Measurement of Brittleness. P. L. Irwin, 737.

Bronze.
Discussion on Wear Testing of Metals, 348.
Wear and Mechanical Tests of Some Railroad Bearing Bronzes. H. J. French, 298. Discussion, 348.

Bursting Test.
See **Hydrostatic Test.**

C

Calibration Devices.
Determination of Correct Load Application in Rockwell Hardness Testing Machines. F. S. Mapes, 728. Discussion, 732.
The Calibration of Extensometers. R. L. Templin, 714. Discussion, 722.

Cantilever Tests of Concrete.
The Effect of Several Mechanical Features of Testing on the Determination of the Flexural Strength of Plain Concrete. T. F. Willis and F. N. Wray, 565. Discussion, 574.

Carbon Residue.
The Significance of Various Tests Applied to Motor Oils. Robert E. Wilson and D. P. Barnard, 4th, 674. Discussion, 686.

Cast Iron.
Correlation between endurance limit and other test results of some cast irons, 195.
A Study of Centrifugally-Cast Pipe (Metal-Mold Process) *versus* Sand-Cast Pipe. F. N. Menefee and A. E. White, 221. Discussion, 252.
The Static and Fatigue Properties of Some Cast Irons. J. B. Kommers, 174. Discussion, 198.

Celite.
Methods of Measuring the Thermal Conductivity of Insulating and Refractory Materials. M. L. Hartmann, O. B. Westmont and C. E. Weinland, 820.

Cement.
Compression, Flexure and Tension Tests of Plain Concrete. H. F. Gonnerman and E. C. Shuman, 527. Discussion, 553.
Permeability of Concrete. Ira L. Collier, 490. Discussion, 497.
A Plastic Mortar Compression Test for Cement. Edward M. Brickett, 432. Discussion, 443.
Resistance of Portland-Cement Concrete to the Action of Sulfate Waters as Influenced by the Cement. Dalton G. Miller, 448. Discussion, 461.
Some Accelerated Freezing and Thawing Tests on Concrete. C. H. Scholer, 472. Discussion, 487.
The A.S.T.M. Specifications for Sewer Pipe and the Fiber Strength of the Material. F. B. Lysle, 647. Discussion, 654.
The Measurement of Workability of Concrete. George A. Smith, 505. Discussion, 521.
Volume Changes of Portland Cement as Affected by Chemical Composition and Aging. Alfred H. White, 398. Discussion, 422.

Chain
The Wearing Qualities of Tire Chains. W. H. Parker, 332. Discussion, 348.

Chemical Composition.
Volume Changes of Portland Cement as Affected by Chemical Composition and Aging. Alfred H. White, 398. Discussion, 422.

Chromium.
Gas Welding of High-Chromium Corrosion-Resistant Alloys. W. B. Miller, 258. Discussion, 266.

Chromium Steel.
See **Alloy Steel.**

Clay Products.
Tests of Clay and Concrete Load-Bearing Pipe. W. J. Schlick, 635.
The A.S.T.M. Specifications for Sewer Pipe and the Fiber Strength of the Material. F. B. Lysle, 647. Discussion, 654.

Coal.
Sampling of Pulverized Coal from Air Streams. Lincoln T. Work, 813.

Coal Tar.
See **Tar.**

Compression Testing.
Compression, Flexure and Tension Tests of Plain Concrete. H. F. Gonnerman and E. C. Shuman, 527. Discussion, 553.
Correlation between endurance limit and other test results of some cast irons, 195.
A Plastic Mortar Compression Test for Cement. Edward M. Brickett, 432. Discussion, 443.
Resistance of Portland-Cement Concrete to the Action of Sulfate Waters as Influenced by the Cement. Dalton G. Miller, 448. Discussion, 461.
A Study of Centrifugally-Cast Pipe (Metal-Mold Process) *versus* Sand-Cast Pipe. F. N. Menefee and A. E. White, 221. Discussion, 252.
Tests of Clay and Concrete Load-Bearing Pipe. W. J. Schlick, 635.
Tests of Specimens Cut from Different Portions of Structural Steel Shapes. M. O. Withey, 41. Discussion, 55.
The Effect of Strength of Brick on Compressive Strength of Brick Masonry J. W. McBurney, 605. Discussion, 626.
The Static and Fatigue Properties of Some Cast Irons. J. B. Kommers, 174. Discussion, 198.

Concrete.
Bibliography on physical testing of concrete, 551.
Compression, Flexure and Tension Tests of Plain Concrete. H. F. Gonnerman and E. C. Shuman, 527. Discussion, 553.
Discussion on Workability of Concrete, 521.
Experimental Tests of Concrete-Steel Bond. L. N. Edwards and H. L. Greenleaf, 584. Discussion, 599.
Permeability of Concrete. Ira L. Collier, 490. Discussion, 497.
Resistance of Portland-Cement Concrete to the Action of Sulfate Waters as Influenced by the Cement. Dalton G. Miller, 448. Discussion, 461.
Some Accelerated Freezing and Thawing Tests on Concrete. C. H. Scholer, 472. Discussion, 487.
Tests of Clay and Concrete Load-Bearing Pipe. W. J. Schlick, 635.
The A.S.T.M. Specifications for Sewer Pipe and the Fiber Strength of the Material. F. B. Lysle, 647. Discussion, 654.
The Determination of the Workability of Concrete. Wallace F. Purrington and Harold C. Loring, 499. Discussion, 521.
The Effect of Several Mechanical Features of Testing on the Determination of the Flexural Strength of Plain Concrete. T. F. Willis and F. N. Wray, 565. Discussion, 574.
The Measurement of Workability of Concrete. George A. Smith, 505. Discussion, 521.

Consistency.
Discussion on Workability of Concrete, 521.
The Determination of the Workability of Concrete. Wallace F. Purrington and Harold C. Loring, 499. Discussion, 521.
The Measurement of Workability of Concrete. George A. Smith, 505. Discussion, 521.

Copper.
Some Mechanical Properties of Nickel, Manganese-Nickel, and Copper-Nickel Alloys. William A. Mudge and Leroy W. Luff, 278. Discussion, 292.
Wear and Mechanical Tests of Some Railroad Bearing Bronzes. H. J. French, 298. Discussion, 348.

Corrosion.
Discussion on Corrosion-Fatigue of Metals, 168.
Gas Welding of High-Chromium Corrosion-Resistant Alloys. W. B. Miller, 258. Discussion, 266.
Influence of Corrosion Accelerators and Inhibitors on Fatigue of Ferrous Metals. F. N. Speller, I. B. McCorkle and P. F. Mumma, 159. Discussion, 168.
Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.

Creep Test.
See **Flow Tests.**

Cyclic Stress.
Discussion on Corrosion-Fatigue of Metals, 168.
Influence of Corrosion Accelerators and Inhibitors on Fatigue of Ferrous Metals. F. N. Speller, I. B. McCorkle and P. F. Mumma, 159. Discussion, 168.
Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.

D

Deoxidation.
Ferrous Silicates in Steel. C. H. Herty, Jr., and G. R. Fitterer, 23.

Deval Abrasion.
Studies of Methods of Making Deval Abrasion Tests of Aggregates. Stanton Walker, 745. Discussion, 768.

Distillation.
The How and Why of Gasoline Performance. J. Bennett Hill, 659. Discussion, 670.

Drain Tile.
Tests of Clay and Concrete Load-Bearing Pipe. W. J. Schlick, 635.

Durability.
Some Accelerated Freezing and Thawing Tests on Concrete. C. H. Scholer, 472. Discussion, 487.
Tests of Clay and Concrete Load-Bearing Pipe. W. J. Schlick, 635.

E

Efflorescence.
Staining and Efflorescence on Indiana Limestone Caused by Moisture Seepage Through Backing Masonry Materials. Lee Huber, 695. Discussion, 707.

Elastic Limit.
Concerning the Yield Point in Tension. J. M. Lessells, 387. Discussion, 393.

Electrical Testing.
Discussion on Workability of Concrete, 521.
Endurance of High-Speed Cut-Off Tools in Relation to Magnetic and Other Measurements. Haakon Styri, 375. Discussion, 385.

Electrical Testing (*Continued*):
The Determination of the Workability of Concrete. Wallace F. Purrington and Harold C. Loring, 499. Discussion, 521.
The Incremental Permeability Method for the Magnetic Analysis of High-Speed Steel. W. B. Kouwenhoven and Julian D. Tebo, 356.

Elutriation.
Methods of Particle Size Determination. Lincoln T. Work, 771.

Endurance Testing.
See **Fatigue Testing.**

Extensometers.
The Calibration of Extensometers. R. L. Templin, 714. Discussion, 722.

F

Fatigue Testing.
Correlation between endurance limit and other test results of some cast irons, 195.
Discussion on Corrosion-Fatigue of Metals, 168.
Influence of Corrosion Accelerators and Inhibitors on Fatigue of Ferrous Metals. F. N. Speller, I. B. McCorkle and P. F. Mumma, 159. Discussion, 168.
Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.
The Static and Fatigue Properties of Some Cast Irons. J. B. Kommers, 174. Discussion, 198.

Ferrous Silicates.
Ferrous Silicates in Steel. C. H. Herty, Jr., and G. R. Fitterer, 23.

Fiber Strength.
The A.S.T.M. Specifications for Sewer Pipe and the Fiber Strength of the Material. F. B. Lysle, 647. Discussion, 654.

Flexure Testing.
Compression, Flexure and Tension Tests of Plain Concrete. H. F. Gonnerman and E. C. Shuman, 527. Discussion, 553.
Measurement of Brittleness. P. L. Irwin, 737.
The Effect of Several Mechanical Features of Testing on the Determination of the Flexural Strength of Plain Concrete. T. F. Willis and F. N. Wray, 565. Discussion, 574.
The Effect of Strength of Brick on Compressive Strength of Brick Masonry. J. W. McBurney, 605. Discussion, 626.
The Effect of Sulfur on the Physical Properties of Gray Iron. Edwin K. Smith and Fred. B. Riggan, 205. Discussion, 218.

Flooring Materials.
The Development of an Apparatus for Wear Tests on Flooring Materials. D. W. Kessler, 855. Discussion, 868.

Flow Tests.
Discussion on Workability of Concrete, 521.
"Long-Time" or "Flow" Tests of Carbon Steels at Various Temperatures with Particular Reference to Stresses Below the Proportional Limit. J. J. Kanter and L. W. Spring, 80. Discussion, 107.
The Measurement of Workability of Concrete. George A. Smith, 505. Discussion, 521.

Forgings.
Ferrous Silicates in Steel. C. H. Herty, Jr., and G. R. Fitterer, 23.

Freezing Tests.
Some Accelerated Freezing and Thawing Tests on Concrete. C. H. Scholer, 472. Discussion, 487.

G

Gasoline.
The How and Why of Gasoline Performance. J. Bennett Hill, 659. Discussion, 670.

Gas Welding.
Gas Welding of High-Chromium Corrosion-Resistant Alloys. W. B. Miller, 258. Discussion, 266.

Gravel.
Studies of Methods of Making Deval Abrasion Tests of Aggregates. Stanton Walker, 745. Discussion, 768.

Gray Iron.
The Effect of Sulfur on the Physical Properties of Gray Iron. Edwin K. Smith and Fred. B. Riggan, 205. Discussion, 218.

H

Hardness Testing.
Correlation between endurance limit and other test results of some cast irons, 195.
Determination of Correct Load Application in Rockwell Hardness Testing Machines. F. S. Mapes, 728. Discussion, 732.
Endurance of High-Speed Cut-Off Tools in Relation to Magnetic and Other Measurements. Haakon Styri, 375. Discussion, 385.
Some Mechanical Properties of Nickel, Manganese-Nickel and Copper-Nickel Alloys. William A. Mudge and Leroy W. Luff, 278. Discussion, 292.
A Study of Centrifugally-Cast Pipe (Metal-Mold Process) *versus* Sand-Cast Pipe. F. N. Menefee and A. E. White, 221. Discussion, 252.
The Effect of Sulfur on the Physical Properties of Gray Iron. Edwin K. Smith and Fred. B. Riggan, 205. Discussion, 218.
The Static and Fatigue Properties of Some Cast Irons. J. B. Kommers, 174. Discussion, 198.

Heat Transmission.
Methods of Measuring the Thermal Conductivity of Insulating and Refractory Materials. M. L. Hartmann, O. B. Westmont and C. E. Weinland, 820.

Heat Treatment.
Endurance of High-Speed Cut-Off Tools in Relation to Magnetic and Other Measurements. Haakon Styri, 375. Discussion, 385.

High-Speed Steel.
Endurance of High-Speed Cut-Off Tools in Relation to Magnetic and Other Measurements. Haakon Styri, 375. Discussion, 385.
The Incremental Permeability Method for the Magnetic Analysis of High-Speed Steel. W. B. Kouwenhoven and Julian D. Tebo, 356.

High Temperature.
"Long-Time" or "Flow" Tests of Carbon Steels at Various Temperatures with Particular Reference to Stresses Below the Proportional Limit. J. J. Kanter and L. W. Spring, 80. Discussion, 107.

Testing of Materials at Elevated Temperatures. P. G. McVetty, 60. Discussion, 77.
The Seizing of Metals at High Temperatures. N. L. Mochel, 269. Discussion, 276.

Hydrostatic Test.
A Study of Centrifugally-Cast Pipe (Metal-Mold Process) *versus* Sand-Cast Pipe. F. N. Menefee and A. E. White, 221. Discussion, 252.

I

Impact Testing.
Discussion on Wear Testing of Metals, 348.
Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.
Some Mechanical Properties of Nickel, Manganese-Nickel and Copper-Nickel Alloys. William A. Mudge and Leroy W. Luff, 278. Discussion, 292.
A Study of Centrifugally-Cast Pipe (Metal-Mold Process) *versus* Sand-Cast Pipe. F. N. Menefee and A. E. White, 221. Discussion, 252.
The Wearing Qualities of Tire Chains. W. H. Parker, 332. Discussion, 348.
Wear and Mechanical Tests of Some Railroad Bearing Bronzes. H. J. French, 298. Discussion, 348.

Indiana Limestone.
Staining and Efflorescence on Indiana Limestone Caused by Moisture Seepage Through Backing Masonry Materials. Lee Huber, 695. Discussion, 707.

Inhibitors.
Discussion on Corrosion-Fatigue of Metals, 168.
Influence of Corrosion Accelerators and Inhibitors on Fatigue of Ferrous Metals. F. N. Speller, I. B. McCorkle and P. F. Mumma, 159. Discussion, 168.

Insulating Materials.
Methods of Measuring the Thermal Conductivity of Insulating and Refractory Materials. M. L. Hartmann, O. B. Westmont and C. E. Weinland, 820.

Iron.
Concerning the Yield Point in Tension. J. M. Lessells, 387. Discussion, 393.
Correlation between endurance limit and other test results of some cast irons, 195.
Gas Welding of High-Chromium Corrosion-Resistant Alloys. W. B. Miller, 258. Discussion, 266.
"Long-Time" or "Flow" Tests of Carbon Steels at Various Temperatures with Particular Reference to Stresses Below the Proportional Limit. J. J. Kanter and L. W. Spring, 80. Discussion, 107.
Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.
The Effect of Sulfur on the Physical Properties of Gray Iron. Edwin K. Smith and Fred. B. Riggan, 205. Discussion, 218.
The Static and Fatigue Properties of Some Cast Irons. J. B. Kommers, 174. Discussion, 198.
Wear Testing of Various Types of Steels. J. M. Blake, 341. Discussion, 348.

J

Johnson Limit.
Concerning the Yield Point in Tension. J. M. Lessells, 387. Discussion, 393.

L

Lime.
Volume Changes of Portland Cement as Affected by Chemical Composition and Aging. Alfred H. White, 398. Discussion, 422.

Limestone.
Staining and Efflorescence on Indiana Limestone Caused by Moisture Seepage Through Backing Masonry Materials. Lee Huber, 695. Discussion, 707.
Studies of Methods of Making Deval Abrasion Tests of Aggregates. Stanton Walker, 745. Discussion, 768.

Long-Time Tests.
"Long-Time" or "Flow" Tests of Carbon Steels at Various Temperatures with Particular Reference to Stresses Below the Proportional Limit. J. J. Kanter and L. W. Spring, 80. Discussion, 107.
Testing of Materials at Elevated Temperatures. P. G. McVetty, 60. Discussion, 77.

Lubricants.
The Significance of Various Tests Applied to Motor Oils. Robert E. Wilson and D. P. Barnard, 4th, 674. Discussion, 686.

M

Magnesia.
Volume Changes of Portland Cement as Affected by Chemical Composition and Aging. Alfred H. White, 398. Discussion, 422.

Magnetic Testing.
Endurance of High-Speed Cut-Off Tools in Relation to Magnetic and Other Measurements. Haakon Styri, 375. Discussion, 385.
The Incremental Permeability Method for the Magnetic Analysis of High-Speed Steel. W. B. Kouwenhoven and Julian D. Tebo, 356.

Manganese.
Some Mechanical Properties of Nickel, Manganese-Nickel, and Copper-Nickel Alloys. William A. Mudge and Leroy W. Luff, 278. Discussion, 292.
Wearing Tests of Twelve-per-cent Manganese Steel. John Howe Hall, 326. Discussion, 348.

Masonry.
The Effect of Strength of Brick on Compressive Strength of Brick Masonry. J. W. McBurney, 605. Discussion, 626.

Mechanical Analysis.
Methods of Particle Size Determination. Lincoln T. Work, 771.
Sampling of Pulverized Coal from Air Streams. Lincoln T. Work, 813.
Studies of Methods of Making Deval Abrasion Tests of Aggregates. Stanton Walker, 745. Discussion, 768.

Metallography.
Discussion on some physical properties of nickel alloys, 292.
Ferrous Silicates in Steel. C. H. Herty, Jr., and G. R. Fitterer, 23.
The Effect of Sulfur on the Physical Properties of Gray Iron. Edwin K. Smith and Fred. B. Riggan, 205. Discussion, 218.
The Static and Fatigue Properties of Some Cast Irons. J. B. Kommers, 174. Discussion, 198.

Metallography (*Continued*):
A Study of Centrifugally-Cast Pipe (Metal-Mold Process) *versus* Sand-Cast Pipe. F. N. Menefee and A. E. White, 221. Discussion, 252.
Wear and Mechanical Tests of Some Railroad Bearing Bronzes. H. J. French, 298. Discussion, 348.

Mixing Concrete.
Discussion on Workability of Concrete, 521.
The Determination of the Workability of Concrete. Wallace F. Purrington and Harold C. Loring, 499. Discussion, 521.

Modulus of Rupture.
See **Flexure Testing.**

Moisture.
Staining and Efflorescence on Indiana Limestone Caused by Moisture Seepage Through Backing Masonry Materials. Lee Huber, 695. Discussion, 707.
Volume Changes of Portland Cement as Affected by Chemical Composition and Aging. Alfred H. White, 398. Discussion, 422.

Monel Metal.
The Seizing of Metals at High Temperatures. N. L. Mochel, 269. Discussion, 276.

Mortar.
A Plastic Mortar Compression Test for Cement. Edward M. Brickett, 432. Discussion, 443.

Motor Oil.
The Significance of Various Tests Applied to Motor Oils. Robert E. Wilson and D. P. Barnard, 4th, 674. Discussion, 686.

N

Nickel.
Gas Welding of High-Chromium Corrosion-Resistant Alloys. W. B. Miller, 258. Discussion, 266.
Some Mechanical Properties of Nickel, Manganese-Nickel, and Copper-Nickel Alloys. William A. Mudge and Leroy W. Luff, 278. Discussion, 292.
Wearing Tests of Twelve-per-cent Manganese Steel. John Howe Hall, 326. Discussion, 348.

Nickel Steel.
Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.

O

Oiliness.
The Significance of Various Tests Applied to Motor Oils. Robert E. Wilson and D. P. Barnard, 4th, 674. Discussion, 686.

Oils.
The Significance of Various Tests Applied to Motor Oils. Robert E. Wilson and D. P. Barnard, 4th, 674. Discussion, 686.

Oxidation.
The Significance of Various Tests Applied to Motor Oils. Robert E. Wilson and D. P. Barnard, 4th, 674. Discussion, 686.

P

Particle Size.
List of references on particle size determination, 812.
Methods of Particle Size Determination. Lincoln T. Work, 771.

Permeability.
Permeability of Concrete. Ira L. Collier, 490. Discussion, 497.

Petroleum Products.
The How and Why of Gasoline Performance. J. Bennett Hill, 659. Discussion, 670.
The Significance of Various Tests Applied to Motor Oils. Robert E. Wilson and D. P. Barnard, 4th, 674. Discussion, 686.

Photomicrographs.
See **Metallography.**

Pipe.
A Study of Centrifugally-Cast Pipe (Metal-Mold Process) *versus* Sand-Cast Pipe. F. N. Menefee and A. E. White, 221. Discussion, 252.
Tests of Clay and Concrete Load-Bearing Pipe. W. J. Schlick, 635.
The A.S.T.M. Specifications for Sewer Pipe and the Fiber Strength of the Material. F. B. Lysle, 647. Discussion, 654.

Pitch.
The Test for Volatile Combustible Matter as Applied to Coal-Tar Pitch. S. R. Church and W. H. Fulweiler, 848.

Plastic Mortar Test.
A Plastic Mortar Compression Test for Cement. Edward M. Brickett, 432. Discussion, 443.

Pour Test.
The Significance of Various Tests Applied to Motor Oils. Robert E. Wilson and D. P. Barnard, 4th, 674. Discussion, 686.

Power Tubes.
Some Research Problems Involved in Transoceanic Telephony. Edgar Marburg Lecture. Frank B. Jewett, 7.

Proportional Limit.
"Long-Time" or "Flow" Tests of Carbon Steels at Various Temperatures with Particular Reference to Stresses Below the Proportional Limit. J. J. Kanter and L. W. Spring, 80. Discussion, 107.

R

Refractory Materials.
Methods of Measuring the Thermal Conductivity of Insulating and Refractory Materials. M. L. Hartmann, O. B. Westmont and C. E. Weinland, 820.

Road Materials.
Studies of Methods of Making Deval Abrasion Tests of Aggregates. Stanton Walker, 745. Discussion, 768.

Rubber.
An Explanation of Some of the Difficulties in Abrasion Testing of Rubber. Harlan A. Depew, 871. Discussion, 880.

S

Salt Water, Effect of.
Resistance of Portland-Cement Concrete to the Action of Sulfate Waters as Influenced by the Cement. Dalton G. Miller, 448. Discussion, 461.

Sampling.
Sampling of Pulverized Coal from Air Streams. Lincoln T. Work, 813.

Seizing of Metals.
The Seizing of Metals at High Temperatures. N. L. Mochel, 269. Discussion, 276.

Sewer Pipe.
Tests of Clay and Concrete Load-Bearing Pipe. W. J. Schlick, 635.
The A.S.T.M. Specifications for Sewer Pipe and the Fiber Strength of the Material. F. B. Lysle, 647. Discussion, 654.

Shapes.
Tests of Specimens Cut from Different Portions of Structural Steel Shapes. M. O. Withey, 41. Discussion, 55.

Shear.
The Effect of Strength of Brick on Compressive Strength of Brick Masonry. J. W. McBurney, 605. Discussion, 626.

Short-Time Tests.
"Long-Time" or "Flow" Tests of Carbon Steels at Various Temperatures with Particular Reference to Stresses Below the Proportional Limit. J. J. Kanter and L. W. Spring, 80. Discussion, 107.
Testing of Materials at Elevated Temperatures. P. G. McVetty, 60. Discussion, 77.

Sieve Analysis.
See **Mechanical Analysis.**

Silicon.
Ferrous Silicates in Steel. C. H. Herty, Jr., and G. R. Fitterer, 23.

Slag.
Studies of Methods of Making Deval Abrasion Tests of Aggregates. Stanton Walker, 745. Discussion, 768.

Staining.
Staining and Efflorescence on Indiana Limestone Caused by Moisture Seepage Through Backing Masonry Materials. Lee Huber, 695. Discussion, 707.

Stainless Steel.
Gas Welding of High-Chromium Corrosion-Resistant Alloys. W. B. Miller, 258. Discussion, 266.
The Seizing of Metals at High Temperatures. N. L. Mochel, 269. Discussion, 276.

Steel.
Concerning the Yield Point in Tension. J. M. Lessells, 387. Discussion, 393.
Discussion on Corrosion-Fatigue of Metals, 168.
Discussion on Wear Testing of Metals, 348.
Endurance of High-Speed Cut-Off Tools in Relation to Magnetic and Other Measurements. Haakon Styri, 375. Discussion, 385.
Experimental Tests of Concrete-Steel Bond. L. N. Edwards and H. L. Greenleaf, 584. Discussion, 599.

Ferrous Silicates in Steel. C. H. Herty, Jr., and G. R. Fitterer, 23.
Gas Welding of High-Chromium Corrosion-Resistant Alloys. W. B. Miller, 258. Discussion, 266.
Influence of Corrosion Accelerators and Inhibitors on Fatigue of Ferrous Metals. F. N. Speller, I. B. McCorkle and P. F. Mumma, 159. Discussion, 168.
"Long-Time" or "Flow" Tests of Carbon Steels at Various Temperatures with Particular Reference to Stresses Below the Proportional Limit. J. J. Kanter and L. W. Spring, 80. Discussion, 107.
Measurement of Brittleness. P. L. Irwin, 737.
Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.
Testing of Materials at Elevated Temperatures. P. G. McVetty, 60. Discussion, 77.
Tests of Specimens Cut from Different Portions of Structural Steel Shapes. M. O. Withey, 41. Discussion, 55.
The Incremental Permeability Method for the Magnetic Analysis of High-Speed Steel. W. B. Kouwenhoven and Julian D. Tebo, 356.
The Seizing of Metals at High Temperatures. N. L. Mochel, 269. Discussion, 276.
The Wearing Qualities of Tire Chains. W. H. Parker, 332. Discussion, 348.
Wearing Tests of Twelve-per-cent Manganese Steel. John Howe Hall, 326. Discussion, 348.
Wear Testing of Various Types of Steels. J. M. Blake, 341. Discussion, 348.

Stone.

Staining and Efflorescence on Indiana Limestone Caused by Moisture Seepage Through Backing Masonry Materials. Lee Huber, 695. Discussion, 707.
Studies of Methods of Making Deval Abrasion Tests of Aggregates. Stanton Walker, 745. Discussion, 768.
The Development of an Apparatus for Wear Tests on Flooring Materials. D. W. Kessler, 855. Discussion, 868.

Structural Steel.

Tests of Specimens Cut from Different Portions of Structural Steel Shapes. M. O. Withey, 41. Discussion, 55.

Sulfate Waters, Effect of.

Resistance of Portland-Cement Concrete to the Action of Sulfate Waters as Influenced by the Cement. Dalton G. Miller, 448. Discussion, 461.

Sulfur.

The Effect of Sulfur on the Physical Properties of Gray Iron. Edwin K. Smith and Fred. B. Riggan, 205. Discussion, 218.

T

Tar.

The Test for Volatile Combustible Matter as Applied to Coal-Tar Pitch. S. R. Church and W. H. Fulweiler, 848.

Telephony.

Some Research Problems Involved in Transoceanic Telephony. Edgar Marburg Lecture. Frank B. Jewett, 7.

Temperature, Effect of.

See **Heat Treatment; High Temperature.**

Tension Testing.

Compression, Flexure and Tension Tests of Plain Concrete. H. F. Gonnerman and E. C. Shuman, 527. Discussion, 553.

Concerning the Yield Point in Tension. J. M. Lessells, 387. Discussion, 393.

Correlation between endurance limit and other test results of some cast irons, 195.

Gas Welding of High-Chromium Corrosion-Resistant Alloys. W. B. Miller, 258. Discussion, 266.

"Long-Time" or "Flow" Tests of Carbon Steels at Various Temperatures with Particular Reference to Stresses Below the Proportional Limit. J. J. Kanter and L. W. Spring, 80. Discussion, 107.

Measurement of Brittleness. P. L. Irwin, 737.

A Plastic Mortar Compression Test for Cement. Edward M. Brickett, 432. Discussion, 443.

Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.

Some Mechanical Properties of Nickel, Manganese-Nickel, and Copper-Nickel Alloys. William A. Mudge and Leroy W. Luff, 278. Discussion, 292.

A Study of Centrifugally-Cast Pipe (Metal-Mold Process) *versus* Sand-Cast Pipe. F. N. Menefee and A. E. White, 221. Discussion, 252.

Testing of Materials at Elevated Temperatures. P. G. McVetty, 60. Discussion, 77.

Tests of Specimens Cut from Different Portions of Structural Steel Shapes. M. O. Withey, 41. Discussion, 55.

The Effect of Strength of Brick on Compressive Strength of Brick Masonry. J. W. McBurney, 605. Discussion, 626.

The Effect of Sulfur on the Physical Properties of Gray Iron. Edwin K. Smith and Fred. B. Riggan, 205. Discussion, 218.

The Static and Fatigue Properties of Some Cast Irons. J. B. Kommers, 174. Discussion, 198.

Wear and Mechanical Tests of Some Railroad Bearing Bronzes. H. J. French, 298. Discussion, 348.

Testing Apparatus.

See also **Testing, Methods of.**

Determination of Correct Load Application in Rockwell Hardness Testing Machines. F. S. Mapes, 728. Discussion, 732.

Experimental Tests of Concrete-Steel Bond. L. N. Edwards and H. L. Greenleaf, 584. Discussion, 599.

"Long-Time" or "Flow" Tests of Carbon Steels at Various Temperatures with Particular Reference to Stresses Below the Proportional Limit. J. J. Kanter and L. W. Spring, 80. Discussion, 107.

Measurement of Brittleness. P. L. Irwin, 737.

Permeability of Concrete. Ira L. Collier, 490. Discussion, 497.

Some Mechanical Properties of Nickel, Manganese-Nickel and Copper-Nickel Alloys. William A. Mudge and Leroy W. Luff, 278. Disucssion, 292.

The Calibration of Extensometers. R. L. Templin, 714. Discussion, 722.

The Determination of the Workability of Concrete. Wallace F. Purrington and Harold C. Loring, 499. Discussion, 521.

The Development of an Apparatus for Wear Tests on Flooring Materials. D. W. Kessler, 855. Discussion, 868.

The Effect of Several Mechanical Features of Testing on the Determination of the Flexural Strength of Plain Concrete. T. F. Willis and F. N. Wray, 565. Discussion, 574.

The Measurement of Workability of Concrete. George A. Smith, 505. Discussion, 521.
The Seizing of Metals at High Temperatures. N. L. Mochel, 269. Discussion, 276.
Wear and Mechanical Tests of Some Railroad Bearing Bronzes. H. J. French, 298. Discussion, 348.
Wear Testing of Various Types of Steels. J. M. Blake, 341. Discussion, 348.

Testing, Methods of.
See also **Testing Apparatus.**
An Explanation of Some of the Difficulties in Abrasion Testing of Rubber. Harlan A. Depew, 871. Discussion, 880.
Bibliography on physical testing of concrete, 551.
Methods of Measuring the Thermal Conductivity of Insulating and Refractory Materials. M. L. Hartmann, O. B. Westmont and C. E. Weinland, 820.
Methods of Particle Size Determination. Lincoln T. Work, 771.
Sampling of Pulverized Coal from Air Streams. Lincoln T. Work, 813.
Studies of Methods of Making Deval Abrasion Tests of Aggregates. Stanton Walker, 745. Discussion, 768.
Testing of Materials at Elevated Temperatures. P. G. McVetty, 60. Discussion, 77.
The Development of an Apparatus for Wear Tests on Flooring Materials. D. W. Kessler, 855. Discussion, 868.
The Effect of Several Mechanical Features of Testing on the Determination of the Flexural Strength of Plain Concrete. T. F. Willis and F. N. Wray, 565. Discussion, 574.
The Incremental Permeability Method for the Magnetic Analysis of High-Speed Steel. W. B. Kouwenhoven and Julian D. Tebo, 356.
The Test for Volatile Combustible Matter as Applied to Coal-Tar Pitch. S. R. Church and W. H. Fulweiler, 848.

Thawing Tests.
Some Accelerated Freezing and Thawing Tests on Concrete. C. H. Scholer, 472. Discussion, 487.

Thermal Conductivity.
Methods of Measuring the Thermal Conductivity of Insulating and Refractory Materials. M. L. Hartmann, O. B. Westmont and C. E. Weinland, 820.

Time of Set.
Resistance of Portland-Cement Concrete to the Action of Sulfate Waters as Influenced by the Cement. Dalton G. Miller, 448. Discussion, 461.

Tire Chain.
The Wearing Qualities of Tire Chains. W. H. Parker, 332. Discussion, 348.

Tool Steel.
Endurance of High-Speed Cut-Off Tools in Relation to Magnetic and Other Measurements. Haakon Styri, 375. Discussion, 385.

Torsion.
Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals. D. J. McAdam, Jr., 117. Discussion, 168.
Some Mechanical Properties of Nickel, Manganese-Nickel and Copper-Nickel Alloys. William A. Mudge and Leroy W. Luff, 278. Discussion, 292.

Transoceanic Telephony.
Some Research Problems Involved in Transoceanic Telephony. Edgar Marburg Lecture. Frank B. Jewett, 7.

Transverse Testing.
See **Flexure Testing.**
Tubes.
Some Research Problems Involved in Transoceanic Telephony. Edgar Marburg Lecture. Frank B. Jewett, 7.

V

Vacuum Tubes.
Some Research Problems Involved in Transoceanic Telephony. Edgar Marburg Lecture. Frank B. Jewett, 7.
Viscosity.
The Significance of Various Tests Applied to Motor Oils. Robert E. Wilson and D. P. Barnard, 4th, 674. Discussion, 686.
Volatile Combustible Test.
The Test for Volatile Combustible Matter as Applied to Coal-Tar Pitch. S. R. Church and W. H. Fulweiler, 848.
Volume Change.
Volume Changes of Portland Cement as Affected by Chemical Composition and Aging. Alfred H. White, 398. Discussion, 422.

W

Walls.
The Effect of Strength of Brick on Compressive Strength of Brick Masonry. J. W. McBurney, 605. Discussion, 626.
Water-Cement Ratio.
Compression, Flexure and Tension Tests of Plain Concrete. H. F. Gonnerman and E. C. Shuman, 527. Discussion, 553.
Permeability of Concrete. Ira L. Collier, 490. Discussion, 497.
Wear Testing.
See also **Abrasion.**
Discussion on Wear Testing of Metals, 348.
The Development of an Apparatus for Wear Tests on Flooring Materials. D. W. Kessler, 855. Discussion, 868.
The Wearing Qualities of Tire Chains. W. H. Parker, 332. Discussion, 348.
Wear and Mechanical Tests of Some Railroad Bearing Bronzes. H. J. French, 298. Discussion, 348.
Wearing Tests of Twelve-per-cent Manganese Steel. John Howe Hall, 326. Discussion, 348.
Wear Testing of Various Types of Steels. J. M. Blake, 341. Discussion, 348.
Welding.
Gas Welding of High-Chromium Corrosion-Resistant Alloys. W. B. Miller, 258. Discussion, 266.
Workability.
Discussion on Workability of Concrete, 521.
The Determination of the Workability of Concrete. Wallace F. Purrington and Harold C. Loring, 499. Discussion, 521.
The Measurement of Workability of Concrete. George A. Smith, 505. Discussion, 521.

Y

Yield Point.
Concerning the Yield Point in Tension. J. M. Lessells, 387. Discussion, 393.
Tests of Specimens Cut from Different Portions of Structural Steel Shapes. M. O. Withey, 41. Discussion, 55.

AUTHOR INDEX

A

Abbott, Franz D.
Discussion, 671.

Abrams, D. A.
Discussion, 602.

B

Barnard, D. P., 4th.
The Significance of Various Tests Applied to Motor Oils, 674.

Bateman, John H.
Discussion, 426, 654.

Bates, P. H.
Discussion, 430, 498.

Baylis, John R.
Discussion, 461.

Blake, J. M.
Wear Testing of Various Types of Steels, 341.

Bogue, R. H.
Discussion, 422.

Boyd, D. Knickerbacker.
Discussion, 868.

Boyd, T. A.
Discussion, 670.

Brickett, Edward M.
A Plastic Mortar Compression Test for Cement, 432.
Discussion, 446, 559, 563.

Brown, H. E.
Discussion, 424.

C

Capp, J. A.
Discussion, 393.

Carney, L. J.
Discussion, 710.

Cartwright, F. P.
Discussion, 869.

Church, S. R.
The Test for Volatile Combustible Matter as Applied to Coal-Tar Pitch, 848.

Collier, Ira L.
Permeability of Concrete, 490.
Discussion, 498.

Conahey, George.
Discussion, 521, 522.

Coyle, F. B.
Discussion, 199.

Cross, H. C.
Discussion, 77.

D

Davis, R. E.
Discussion, 428, 556.

de Forest, A. V.
Discussion, 385.

Delbridge, T. G.
Discussion, 671, 691.

Depew, Harlan A.
An Explanation of Some of the Difficulties in Abrasion Testing of Rubber, 871.
Discussion, 671, 880.

Derleth, C. P.
Discussion, 603.

Draffin, Jasper O.
Discussion, 469.

Duff, R. L.
Discussion, 110.

Dutton, H. H.
Discussion, 708.

Dwyer, J. R.
Discussion, 524.

E

Edwards, L. N.
Experimental Tests of Concrete-Steel Bond, 584.
Discussion, 604.

Ellis, A. R.
Discussion, 252.

F

Faragher, W. F.
Discussion, 672.

Fitch, T. A.
Discussion, 671.

Fitterer, G. R.
Ferrous Silicates in Steel, 23.

Fletcher, H. W.
Discussion, 168.

Flowers, A. E.
Discussion, 689, 693.

Freeman, P. J.
Discussion, 487.

French, H. J.
Wear and Mechanical Tests of Some Railroad Bearing Bronzes, 298.
Discussion, 107, 114, 267, 276, 352.

Fulweiler, W. H.
The Test for Volatile Combustible Matter as Applied to Coal-Tar Pitch, 848.
Discussion, 692.

G

Gilkey, H. J.
Discussion, 722.

Gillett, H. W.
Discussion, 198, 219, 266, 348.

Goldbeck, A. T.
Discussion, 488, 561, 562, 577.

Gonnerman, H. F.
Compression, Flexure and Tension Tests of Plain Concrete, 527.
Discussion, 444, 447, 560, 562, 563.

Greenleaf, H. L.
Experimental Tests of Concrete-Steel Bond, 584.

H

Hall, John Howe.
Wearing Tests of Twelve-per-cent Manganese Steel, 326.
Discussion, 266, 353.

Harrington, R. F.
Discussion, 219.

Hartmann, M. L.
Methods of Measuring the Thermal Conductivity of Insulating and Refractory Materials, 820.

Herschel, W. H.
Discussion, 352, 521, 687, 692.

Herty, C. H., Jr.
Ferrous Silicates in Steel, 23.

Hill, J. Bennett.
The How and Why of Gasoline Performance, 659.
Discussion, 671, 672.

Huber, Lee.
Staining and Efflorescence on Indiana Limestone Caused by Moisture Seepage Through Backing Masonry Materials, 695.
Discussion, 710, 711.

I

Ingberg, S. H.
Discussion, 626.

Irwin, P. L.
Measurement of Brittleness, 737.

J

Jackson, F. H.
Discussion, 443, 768.

Jasper, T. McL.
Discussion, 112.

Jewett, Frank B.
Some Research Problems Involved in Transoceanic Telephony. Edgar Marburg Lecture, 7.

Johnson, N. C.
Discussion, 497.

K

Kanter, J. J.
"Long-Time" or "Flow" Tests of Carbon Steels at Various Temperatures with Particular Reference to Stresses Below the Proportional Limit, 80.
Discussion, 115.

Karelitz, G. B.
Discussion, 350.

Kellermann, W. F.
Discussion, 553.

Kelley, E. F.
Discussion, 599.

Kern, LeRoy E.
Discussion, 870.

Kessler, D. W.
The Development of an Apparatus for Wear Tests on Flooring Materials, 855.
Discussion, 710, 869, 870.

Kommers, J. B.
The Static and Fatigue Properties of Some Cast Irons, 174.
Discussion, 202.

Kouwenhoven, W. B.
The Incremental Permeability Method for the Magnetic Analysis of High-Speed Steel, 356.

L

Lang, F. C.
Discussion, 576.

Lawson, T. R.
Discussion, 631.

Lederer, E. R.
Discussion, 686.

Lessells, J. M.
Concerning the Yield Point in Tension, 387.
Discussion, 171, 267, 351, 352, 397.

Linton, Robert.
Discussion, 656.

Loring, Harold C.
The Determination of the Workability of Concrete, 499.

Lowry, E. J.
Discussion, 218.

Luff, Leroy W.
Some Mechanical Properties of Nickel, Manganese-Nickel and Copper-Nickel Alloys, 278.

Lysle, F. B.
The A.S.T.M. Specifications for Sewer Pipe and the Fiber Strength of the Material, 647.
Discussion, 657.

M

MacKenzie, J. T.
Discussion, 200, 218, 254.

MacPherran, R. S.
Discussion, 199, 255.

Mapes, F. S.
Determination of Correct Load Application in Rockwell Hardness Testing Machines, 728.
Discussion, 736.

Marston, Anson.
Discussion, 655.

Mattimore, H. S.
Discussion, 562.

McAdam, D. J., Jr.
Some Factors Involved in Corrosion and Corrosion-Fatigue of Metals, 117.
Discussion, 168, 171, 200, 296.

McBurney, J. W.
The Effect of Strength of Brick on Compressive Strength of Brick Masonry, 605.
Discussion, 633.

McCorkle, I. B.
Influence of Corrosion Accelerators and Inhibitors on Fatigue of Ferrous Metals, 159.

McVetty, P. G.
Testing of Materials at Elevated Temperatures, 60.
Discussion, 78, 114.

Menefee, F. N.
A Study of Centrifugally-Cast Pipe (Metal-Mold Process) *versus* Sand-Cast Pipe, 221.
Discussion, 55, 252, 253, 255, 256.

Miller, Dalton G.
Resistance of Portland-Cement Concrete to the Action of Sulfate Waters as Influenced by the Cement, 448.
Discussion, 470.

Miller, W. B.
Gas Welding of High-Chromium Corrosion-Resistant Alloys, 258.
Discussion, 267.

Miner, J. L.
Discussion, 430, 488.

Mochel, N. L.
The Seizing of Metals at High Temperatures, 269.
Discussion, 276, 292.

Moldenke, Richard.
Discussion, 253.

Moore, H. F.
Discussion, 266, 351, 354, 394, 722.

Mougey, H. C.
Discussion, 686.

Mudge, William A.
Some Mechanical Properties of Nickel, Manganese-Nickel and Copper-Nickel Alloys, 278.
Discussion, 296.

Mumma, P. F.
Influence of Corrosion Accelerators and Inhibitors on Fatigue of Ferrous Metals, 159.

Myers, Bert.
Discussion, 574.

P

Palmer, L. A.
Discussion, 626, 707.

Parker, W. H.
The Wearing Qualities of Tire Chains, 332.

Parsons, L. W.
Discussion, 690.

Pike, Robert D.
Discussion, 354.

Purrington, Wallace F.
The Determination of the Workability of Concrete, 499.
Discussion, 524.

R

Rawdon, H. S.
Discussion, 394.

Richart, F. E.
Discussion, 252, 253, 602.

Riggan, Fred. B.
The Effect of Sulfur on the Physical Properties of Gray Iron, 205.
Discussion, 218, 219.

Rockwell, S. P.
Discussion, 732.

Rosenberg, S. J.
Discussion, 349.

S

Schlick, W. J.
Tests of Clay and Concrete Load-Bearing Pipe, 635.
Discussion, 655.

Scholer, C. H.
Some Accelerated Freezing and Thawing Tests on Concrete, 472.
Discussion, 489.

Scott, D. C.
Discussion, 880.

Shuman, E. C.
Compression, Flexure and Tension Tests of Plain Concrete, 527.

Slater, W. A.
Discussion, 600.

Smith, Edwin K.
The Effect of Sulfur on the Physical Properties of Gray Iron, 205.
Discussion, 219.

Smith, George A.
The Measurement of Workability of Concrete, 505.
Discussion, 525.

Smith, H. E.
Discussion, 267.

Speller, F. N.
Influence of Corrosion Accelerators and Inhibitors on Fatigue of Ferrous Metals, 159.
Discussion, 169, 173.

Spring, L. W.
"Long-Time" or "Flow" Tests for Carbon Steels at Various Temperatures with Particular Reference to Stresses Below the Proportional Limit, 80.
Discussion, 115.

Stillman, K. W.
Discussion, 672.

Styri, Haakon.
Endurance of High-Speed Cut-Off Tools in Relation to Magnetic and Other Measurements, 375.
Discussion, 385.

T

Talbot, A. N.
Discussion, 255.

Tebo, Julian D.
The Incremental Permeability Method for the Magnetic Analysis of High-Speed Steel, 356.

Templin, R. L.
The Calibration of Extensometers, 714.
Discussion, 113, 114.

Thackray, G. E.
Discussion, 56.

Thorvaldson, T.
Discussion, 468.

Thum, E. E.
Discussion, 55.

Townsend, J. R.
Discussion, 735.

Tuckerman, L. B.
Discussion, 56, 722.

V

Vogt, Fredrik.
Discussion, 722.

W

Walker, Stanton.
Studies of Methods of Making Deval Abrasion Tests of Aggregates, 745.

Warwick, C. L.
Discussion, 870.

Weinland, C. E.
Methods of Measuring the Thermal Conductivity of Insulating and Refractory Materials, 820.

Westmont, O. B.
Methods of Measuring the Thermal Conductivity of Insulating and Refractory Materials, 820.

White, A. E.
A Study of Centrifugally-Cast Pipe (Metal-Mold Process) *versus* Sand-Cast Pipe, 221.

White, Alfred H.
Volume Changes of Portland Cement as Affected by Chemical Composition and Aging, 398.
Discussion, 431.

Williams, G. M.
Discussion, 466.

Willis, T. F.
The Effect of Several Mechanical Features of Testing on the Determination of the Flexural Strength of Plain Concrete, 565.
Discussion, 582.

Wilson, Robert E.
The Significance of Various Tests Applied to Motor Oils, 674.
Discussion, 672, 693.

Withey, M. O.
Tests of Specimens Cut from Different Portions of Structural Steel Shapes, 41.
Discussion, 58.

Wood, Walter.
Discussion, 255.

Woodward, R. W.
Discussion, 732.

Work, Lincoln T.
Methods of Particle Size Determination, 771.
Sampling of Pulverized Coal from Air Streams, 813.

Wray, F. N.
The Effect of Several Mechanical Features of Testing on the Determination of the Flexural Strength of Plain Concrete, 565.
Discussion, 582.